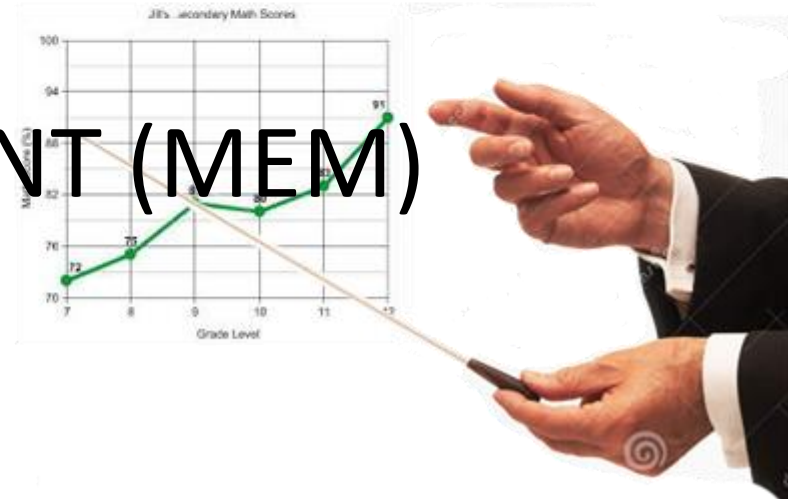


MASTER OF ENGINEERING



MANAGEMENT (MEM)



Dept. of Civil Engineering, School of Engineering and
Graduate School of Business, Nazarbayev University

MEM Program

- The Master of Engineering Management (MEM) degree program is a specialized degree program offered by the School of Engineering in partnership with the Graduate School of Business (GSB) at Nazarbayev University.

OUTLINE (1/2)

- PROGRAM AIM
- EDUCATIONAL OBJECTIVES
- WHAT YOU CAN DO WITH A DEGREE IN ENGINEERING MANAGEMENT

OUTLINE (2/2)

- CURRICULUM
- FACULTY
- MEM vs. MBA

MEM program AIM

The aim of the program is to prepare students with the technical skills and business knowledge for leadership of engineering-related units of enterprises with innovative solutions for complex business problems.

Educational Objectives (1/2)

- Effectively function on and lead multidisciplinary teams.
- Apply the elements of leadership within an organization.
- Analyze and use company data and resources to make effective decisions.
- Identify and manage enterprise risk.
- Use your intellectual, analytical and critical abilities, and to employ these abilities in general and in the management of an enterprise.

Educational Objectives (2/2)

- Effectively manage operations and projects, in terms of costs, planning and technical performance.
- Uphold the highest professional and ethical standards and implement principles of sustainability, safety and social responsibility in the management of an enterprise.

Emphasis on

- The program emphasizes adapting and applying analytical skills and scientific knowledge into business practice.
- Students learn about project management, operations management, supply chain management, engineering management, engineering economy, quality and lean management, marketing, R&D management, new product development, entrepreneurship, business ethics, business strategy, business communication, leading change and innovation, and many other aspects of managing a successful business.

WHAT YOU CAN DO WITH A DEGREE IN ENGINEERING MANAGEMENT (1/3)

An engineering management degree qualifies professionals for a diverse array of jobs, including:

- **Engineering Project Manager.** This professional has direct authority over the actions of everyone on the work site. A combination of engineering knowledge and business acumen is essential.
- **Senior Lead Analyst.** This specialist ensures that engineering teams reach the most efficient outcomes on their assigned tasks.

WHAT YOU CAN DO WITH A DEGREE IN ENGINEERING MANAGEMENT (2/3)

- **Cost Systems Analyst.** A combination of financial management knowledge and engineering skills is necessary for this position. These individuals have a direct impact on the bottom line of large-scale projects.
- **Construction Management Engineer.** A construction management engineer has authority over the planning and building of a wide variety of structures in the construction industry.

WHAT YOU CAN DO WITH A DEGREE IN ENGINEERING MANAGEMENT (3/3)

- **Industrial Management Engineer.** This specialist ensures that industrial emissions are moving safely through the production system.
- **Supply Chain Manager**
- **Quality Manager**
- **Operations Manager**

MEM PROGRAM OVERVIEW

- Established in 2014
- Graduates: 20 (2016) + 21 (2017) + 21 (2018)
- Enrollment: 25 students per year (on the average)
- Faculty: 15 professors from SEng and GSB
- Location: NU Astana Main Campus, Block 3/6, Block C3
- More on Recruitment and Admissions and Financial assistance at the MEM Web site:

<https://seng.nu.edu.kz/programs/graduate-programs/master-of-engineering-management/>

STUDENT FINANCIAL ASSISTANCE

- All students admitted to the Engineering Management program are eligible for tuition and a stipend funded by the government.
- For both 2014-2015 and 2015-2016 and 2016-2017 and 2017-2018 academic years, the Ministry of Education and Science approved funding for 25, 25, 29 and 22 students, respectively, in the SEng enrollment plan.

- The primary source for recruitment of students is **industry**. Candidates would typically have an engineering or science degree with 3 to 5 years of work experience at companies with engineering-related activities.
- Applicants to the program must have an **undergraduate degree from one of the following disciplines including, but not limited to: engineering, construction, architecture and various science and technology degrees.**
- Deficiencies in subject areas will be made up through appropriate prerequisite course work.

- Total Number of ECTS = 120
- All 8 GSB Courses of the 2nd Semester are block-based delivered in 3 weeks (4 ECTS each).
- All SEng courses are long Semester courses delivered in 15 weeks (6 ECTS each).
- The Capstone Project is done at the 4th Semester (16 ECTS).

SEMESTER 1	FALL: August – November	
Engineering Core	Advanced Statistics and Probability	6 ECTS
Engineering Core	Research Methods	6 ECTS
SEng MEM Core	Engineering Management and Engineering Economy	6 ECTS
SEng MEM Core	Project Management	6 ECTS
Elective MEM Course I	Globalization and Engineering/Systems Engineering	6 ECTS

SEMESTER 2	SPRING: January – April	
GSB Core	Accounting	4 ECTS
GSB Core	Management of Organizations	4 ECTS
GSB Core	Finance	4 ECTS
GSB Core	Marketing	4 ECTS
GSB Core	Business Strategy	4 ECTS
GSB Core	Entrepreneurship	4 ECTS
GSB Core	Leading Change	4 ECTS
GSB Core	Business Communication	4 ECTS

SEMESTER 3	FALL: August – November	
SEng MEM Core	Production and Service Operations Management	6 ECTS
SEng MEM Core	Engineering Decision Tools	6 ECTS
SEng MEM Core	Supply Chain Management	6 ECTS
Elective MEM Course II	Systems Engineering/Globalization and Engineering	6 ECTS
Elective MEM Course III	Big Data and Information Management	6 ECTS

SEMESTER 4	SPRING: January – April	
Elective MEM Course	Quality and Lean Management	6 ECTS
SEng MEM Core	Managing Product and Service Development	6 ECTS
SEng MEM Core	Capstone Project	16 ECTS

SEng	ELECTIVE MEM COURSES	
SEng Elective I	Knowledge and Innovation Management	6 ECTS
SEng Elective II	Globalization and Engineering	6 ECTS
SEng Elective III	Big Data and Information Management	6 ECTS
SEng Elective IV	Quality and Lean Management	6 ECTS
SEng Elective V	Systems Engineering	6 ECTS
SEng Elective VI	Operations Research Methods	6 ECTS

Seng

- [Michael Yong Zhao](#) (Professor);
- [Mohammad S. Obaidat](#) (Professor);
- [Christos Spitas/Soo Lee Teh](#) (Professor);
- [Chrysoleon Papadopoulos](#) (Professor);
- [Ali Turkyilmaz](#) (Associate Professor);
- [Mariza Tsakalerou](#) (Assistant Professor);
- [Yerkin Abdildin](#) (Assistant Professor);
- [Konstantinos Kostas](#) (Assistant Professor);
- [Prashant Jamwal](#) (Assistant Professor);
- [Abid Nadeem](#) (Assistant Professor);
- Dimitrios Emiris (Visiting Professor)

GSB

- Bharat Sarath (Visiting Professor in Accounting);
- [Marek Johec](#) (Associate Professor in Finance);
- [Ralitzia Nikolaeva](#) (Associate Professor in Marketing);
- [Chet Borucki](#) (Professor in Business Strategy);
- [Dmitry Khanin](#) (Associate Professor in Entrepreneurship and Management);
- Cinzia Colapinto (Assistant Professor in Innovation and Change);
- [Jenifer Lewis](#) (Associate Professor in Business Communication)

MEM vs. MBA (1/2)

- Students frequently ask about the difference between the MEM and an MBA. In choosing between these two degrees, students should ask, “***What are my career goals?***”
- If you are currently working as an engineer or in a technology-intensive field and your goal is to move into a supervisory, managerial, or executive role, then ***the Master in Engineering Management (MEM) is likely your best choice.***
- This will lead to **high level positions such as Chief Engineer, Chief Technology Officer, Director of Research and Development, Supply Chain Manager, Operations Manager, Quality Manager.**

MEM vs. MBA (2/2)

- If, on the other hand, you desire to move from your current role or company, perhaps into a new venture or startup business, then an MBA is probably the better direction.
- In other words, if you envision yourself striving to provide the best product or service your company can offer its customers, then **the Master in Engineering Management degree is optimal**. If you envision yourself concerned about delivering the best possible financial performance or highest return on investment for your company and shareholders, then an MBA is probably a more suitable path.

For more information about MEM program, please visit the following website:

<https://seng.nu.edu.kz/programs/graduate-programs/master-of-engineering-management/>

or send an email directly to the *Program Coordinator*, Prof. Chrysoleon T. Papadopoulos:

chrysoleon.papadopoulos@nu.edu.kz

WELCOME TO MEM!

